

## Mutations in

Figure 1A

RAD53:

R70A

H88A

E117A

ScFkh1	76-VTIGRNTD-[15]-IDMDLGPAC--VSRKHAIR-[08]-ETQIF--GRNCAKVNERRIP-[07]-TVIAQSCIDING-162
ScFkh2	83-VSIGRNTD-[18]-VNMDLGPAC--VSRKHAIR-[08]-EPIIT--GRNCAKVNERRIP-[07]-IRLSSCTLDIG-172
Ylr183c	118-ITVGRSSQ--CDVALCKNK--FISRVHASIT-[40]-AYRLV--PRFSNEKCKEIODE-GGFNFTLEECDVYAT-222
ScRad53 (FHA1)	66-WTEGRNPA--CDYHIGNIS--RUSNKHFOIL-[06]-LNDI--STNGTWINGQKVE-KNSN-QLISQSGDEITVG-133
SpCds1	60-WGGRHKS--CEVWING--PRVSNHEEIV-[13]-FPHDI--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
MtuEmbr	308-TTIGRLHD--NDIVLDSAN--VSRHHAIV-[06]-VINDIR--SSNGVHVCHERIR--SAVTLNDGDHIFIC-372
MtuCY04C12.31	228-VTIGRAND--NDIVLDSAN--VSRHHAIV-[06]-EIRNR--STNGTFINFERIA-KNSR-TILSNGDEIRIC-133
ydr200c	185-LKIGRPVT-[17]-QVRPDNGNEDSRVSRNHAFIS-[08]-YURDIK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
Ylr283w	99-LKIGRPVA [22] QVRSDNGNEDSRVSRNHAFIS-[08]-YURDIK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
yhr115c	189-IIGRYTE-[09]-PDQYHPVFKSKVSRTHCEFK-[07]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
ynl116w	295-LVIGRYTE-[09]-PEQYHPVFKSKVSRTHCEFK-[07]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
SpDmal	60-IYIGRYTE-RYN--GGDVSAIVERSKVSRHHAIV-[06]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
MtuCY10H4.20C	455-NIIGRCQD--AOFRLPDTG--VSRHHAIV-[06]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
AnaCYAD	24-FTIGRLPE--CNLYLPFAG--VSRHHAIV-[06]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
ScFhl1	300-ALIGRSENDFSHKVDVNLGP--VSRHHAIV-[06]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
MtuCY1A11.16C	77-TSAGRHPD--SDIFLDDVT--VSRHHAIV-[06]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
MtuCY10H4.19C	83-VLIGRADD--STVFLTDY--VSRHHAIV-[06]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
ScDun1	56-TTIGRSRS--CDVITLSE--PDISTHAEFH-[12]-LNVLDK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
ydr501w	102-LAIGRKKS--V--CNHIPP--RKNDSRHAIFIS-[38]-FYKLVAEPLT--CNKQSHGKTQ [07] FVLAKGTVTFP-210
AnaFrah	204-VHIGKPNR-RIP--PDVDVSGFANSEIVSRHADIR-[06]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
SynCYAA	29-WTIGRSQD--NDIVTRNC--VSRHHAIV-[06]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
HsNibrin	24-YVIGRKN--CALLEN--DQSTSRHHAIV-[17]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
DmChk2	52-FTAGRGEANDLIL-TLNDPEKI-LTRVSRHHAIV-[10]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
HsChk2	113-YWFGKSKCEYCF-DEPLAKRTDKYRTYSKHEFIF-[11]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
MmMNF	107-VTIGRNS--QGS--VDSYGL--SSFSRHLQIS-[06]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
SynMCRB	61-YFIGRSSS--CDVITLSE--PDISTHAEFH-[12]-LNVLDK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
ScMek1	47-VRIGRNDK-E--CQVITN--PSSSVHCVFV-[12]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
AtKAPP	208-VRIGRVSP--SDPAKDS--EVSCK-HAQIT-[08]-EYVDG--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
HsKi-67	27-CLFGRGIE--CDVITLSE--PDISTHAEFH-[12]-LNVLDK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
CeZK632.2	108-VVIGRKP-G--CDVITLSE--PDISTHAEFH-[12]-LNVLDK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133
ygl081w	22-KTIGRSSSFDQNS-LCKPYNLXFEPEPSRHAIV-[19]-CIRDLNKT-GTVALVSDGPNDE--IDKNGDAFGFI-109
ScRad53 (FHA2)	601-FFIGRSED--CNCKIED--NPRVSRHHAIV-[16]-GLDDMYCHT-GTVALVSDGPNDE--IDKNGDAFGFI-109
Ylr016c	104-YLIGRELG-[15]-ADIGLPEET--SSKCHCVIQ-[10]-YFADVK--SSNGTFINFERIA-KNSR-TILSNGDEIRIC-133

BOX A

BOX B

BOX C

BOX D

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Figure 1B

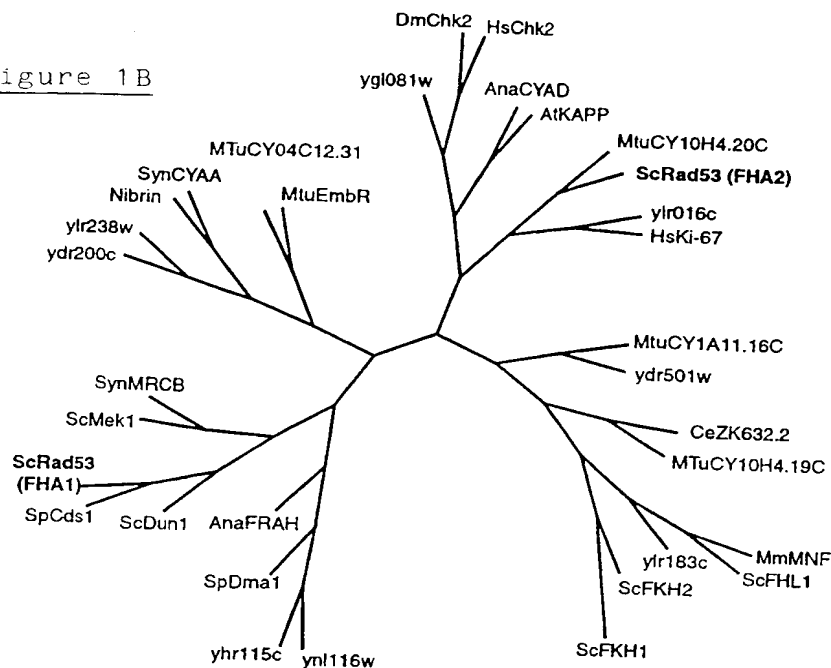


Figure 1C

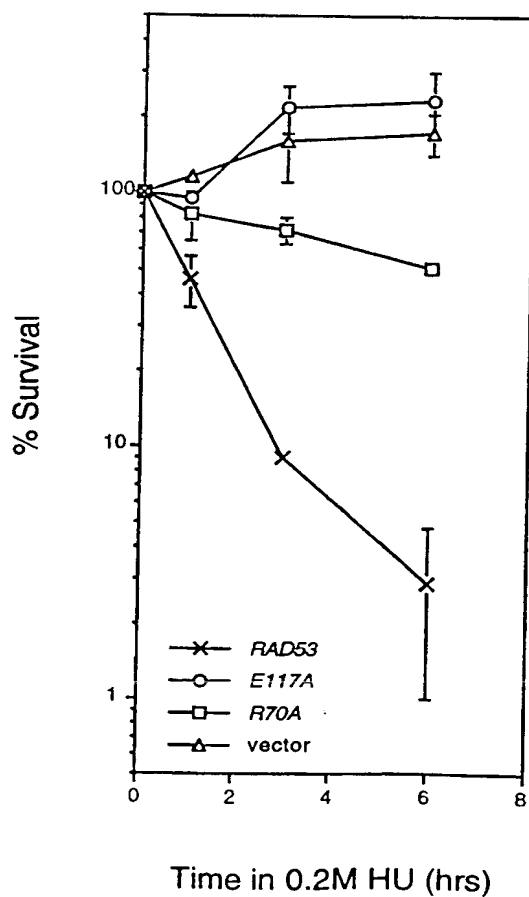


Figure 1D

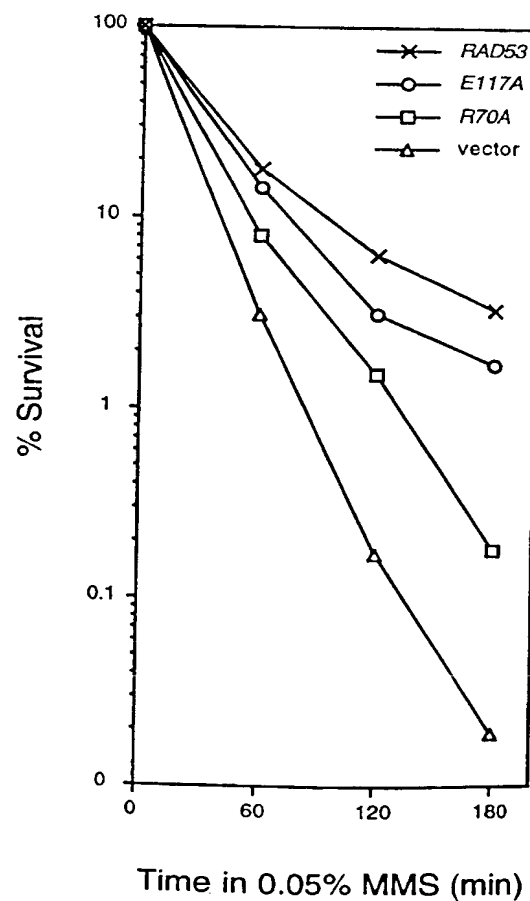


Figure 2

APPLSQETFSDLWKL	ST
APPLS(P)QETFSDLWKL	S(P)T
APPLSQET(P)FSDLWKL	ST(P)
APPLAQET(P)FSDLWKL	ST(P)-3A
APPLSAET(P)FSDLWKL	ST(P)-2A
APPLSQAT(P)FSDLWKL	ST(P)-1A
APPLSQET(P)ASDLWKL	ST(P)+1A
APPLSQET(P)FADLWKL	ST(P)+2A
APPLSQET(P)FSALWKL	ST(P)+3A
ALAAAT(P)AADAAL	ST(P)5A
ALAAADAADAAL	SD5A
APPLSQES(P)FSDLWKL	SS(P)
GGKKATQSQEY	H2AS
GGKKATQS(P)QEY	H2AS(P)

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Figure 3A

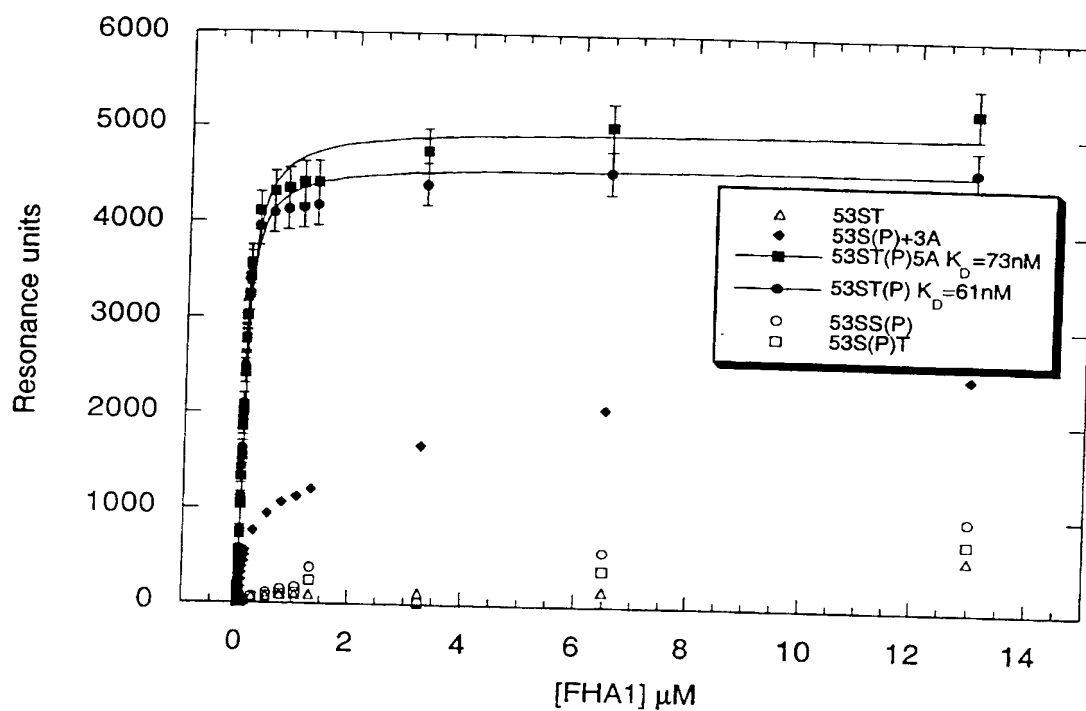


Figure 3B

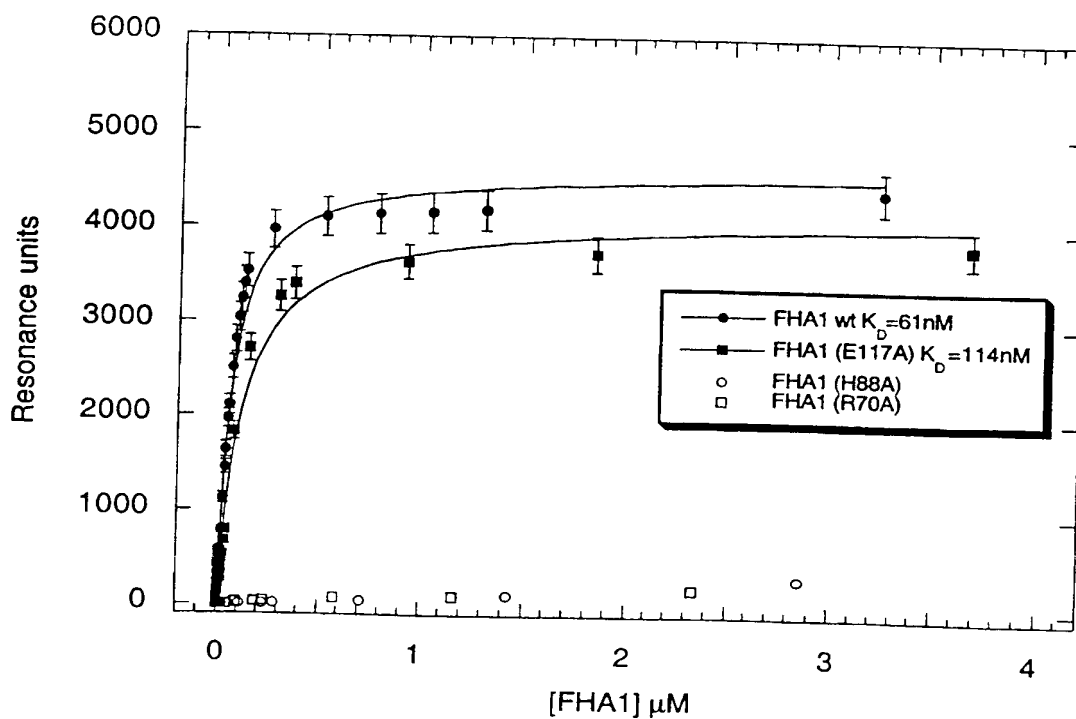


Figure 4

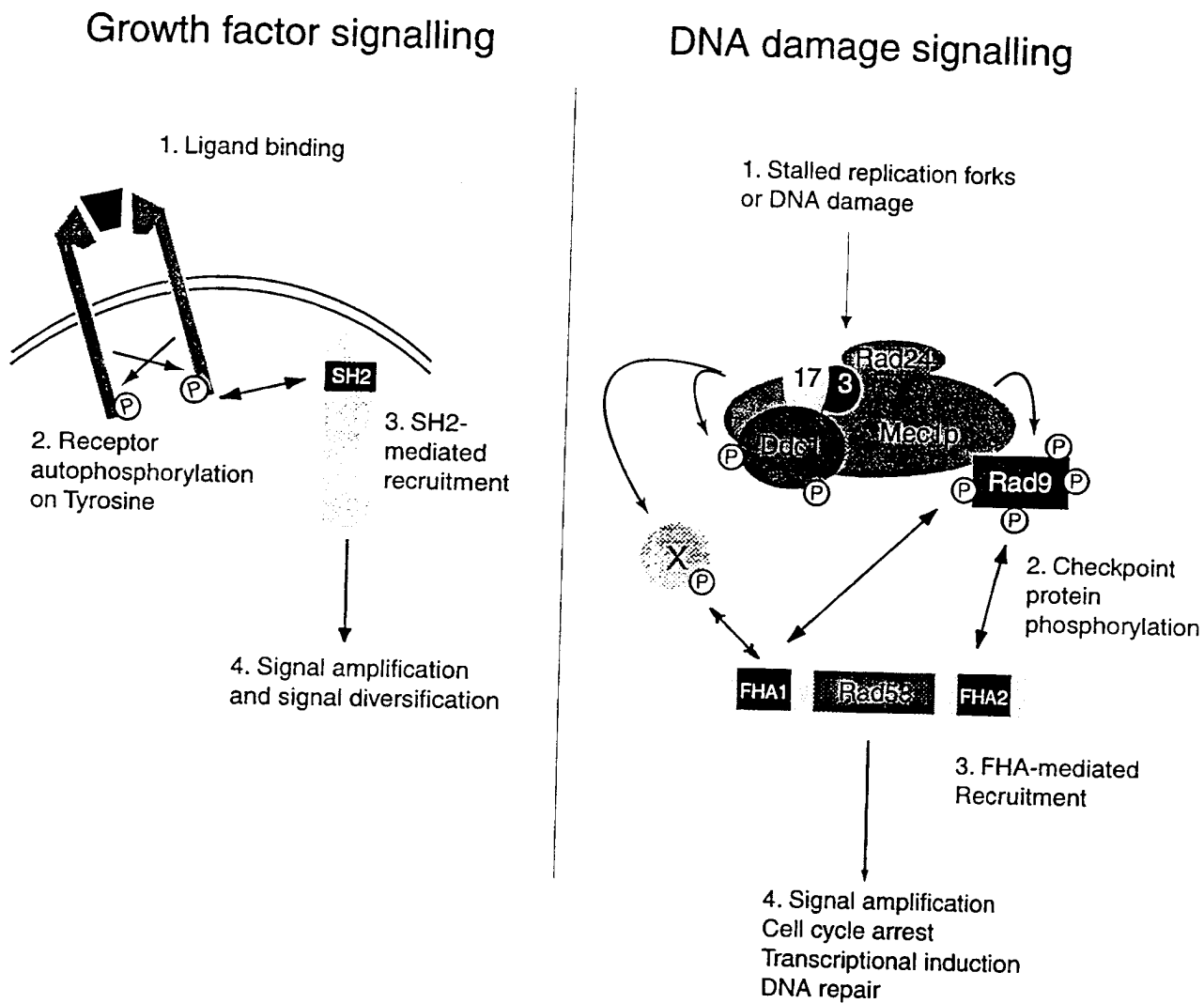


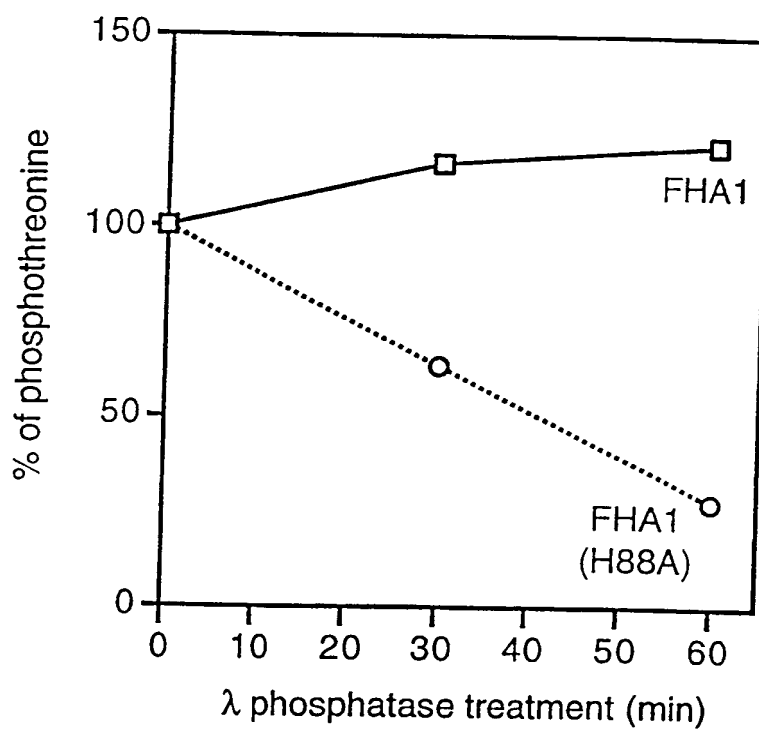
Figure 5

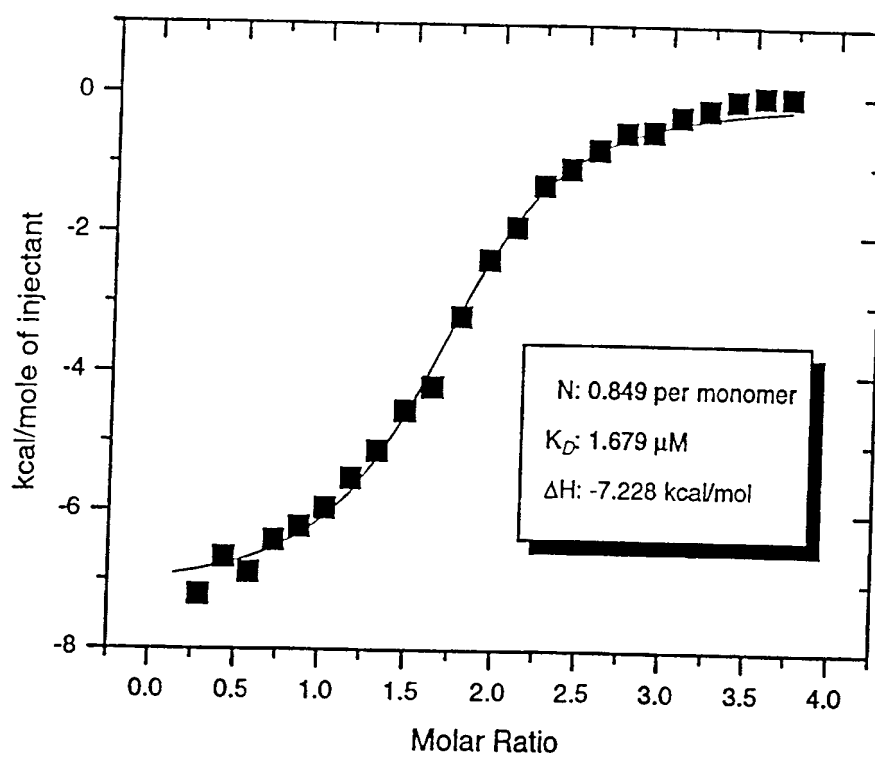
Figure 6

Figure 7

**A**      T : Biotin-SGSYSQETXXXLL  
         T(P): Biotin-SGSYSQET(P)XXXLL

